

## REMARKS

### Request for Reconsideration

Applicant has carefully considered the matters raised by the Examiner in the outstanding Office Action but remains of the position that patentable subject matter is present. Applicant respectfully requests reconsideration of the Examiner's position based on the above amendments to the claims and the following remarks.

### Claim Status

Claims 1-10 and 12-20 are pending in this Application.

Claims 1, 18, and 20 are independent claims and each of these independent claims have been amended herein to specify that the photoinitiator of Formula (1) is activated by laser light having a wavelength of 532 nm. Support for this limitation can be found on page 63, lines 6-10 of the Application. Respectfully, no new matter has been added by way of this amendment.

### Prior Art Rejection

The Examiner has put forward eight Prior Art rejections.

These Prior Art rejections are as follows:

- (1) Claims 1-4, 6-9, 14, and 16-20 unpatentable over a combination of Korishima and Dhar '551;
- (2) Claims 1-4, 6-9, 14, and 16-20 unpatentable over a combination of Korishima and Hegel;
- (3) Claims 1-9, 14, 16-20 unpatentable over a combination of Korishima and Dhar '104;
- (4) Claims 1-4, 6-9, 14, 16-20 unpatentable over a combination of Korishima, Dhar '551 and either Gottschalk or Adair;
- (5) Claims 1-4, 6-9, 14, 16-20 unpatentable over a combination of Korishima, Hegel and either Gottschalk or Adair;
- (6) Claims 1-12, 14, 16-20 unpatentable over a combination of Korishima, Dhar '104 and either Gottschalk or Adair;
- (7) Claims 1-4, 6-10 and 12-20 unpatentable over a combination of Korishima, Hegel, either Gottschalk or Adair or Horimai; and

(8) Claims 1-10 and 12-20 unpatentable over a combination of Korishima, Dhar '104, either Gottschalk or Adair and Horimai.

As can be seen, the primary reference is Korishima and the Examiner takes the position that Korishima teaches the polymerizable compound, element B of the claims, the photoinitiator of Formula (1) of the claims used with a binder in a holographic recording medium.

In order to distinguish the photoinitiator of Korishima from that used in the present Invention, the claims have been amended herein to specifically recite that the photoinitiator of the present Invention is activated by a laser light having a wavelength of 532 nm. This can be contrasted against Korishima's photoinitiator which is taught as being a photoinitiator that is activated with near infrared (IR) light, see paragraphs 6 and 23. Near infrared light is known for having a wavelength in the vicinity of 750 nm to 1.5  $\mu$ m. Specifically, in the example of Korishima, he uses infrared light having a wavelength of 830 nm, see paragraph 21 of the example.

Thus, Applicant respectfully submits that, through the amendments to the claims, he has distinguished over the teachings of Korishima because Korishima specifically teaches using a photoinitiator that is activated by near infrared light and not laser light of 532 nm.

The Examiner had used the secondary references of Dhar '551, Hegel '088 and Dhar '104 to teach the binder compound with reactive groups and the crosslinking agent which crosslinks with the binder, elements A and D of the claims. It will be noted that each one of these secondary references also teach a photoinitiator with a polymerizable compound, however, each one of the references teach a wide variety of photoinitiators. For the specific photoinitiator, each one of the references uses 784 by Ciba Geigy also referred to as Irgacure 784. This initiator '784 is a Titanocene compound. Furthermore, this photoinitiator has also been tested and is compared to the present Invention photoinitiator in the examples of the Application and the examples demonstrated that the photoinitiator in the present Invention results in a ten-fold increase in sensitivity compared to the use of the '784 initiator.

Specifically, the Examiner's attention is directed to Comparative Examples 1-1, 1-2, 1-3, 1-4, 1-5 and 1-6 which are reported in Table 7 on page 65 of the Application. Each one of these Comparative Examples used the '784 initiator. Furthermore, it can be seen by the sensitivity, S, reported in Table 7, that each one of these Comparative Examples had a sensitivity which was about 10 times or more greater than the sensitivity of the material using a photoinitiator that fell within Formula (1).

It is Applicant's position that a ten-fold increase in sensitivity is not expected based on the teachings of these secondary references. Thus, although the secondary references may teach a wide variety of photoinitiators, these secondary references specify the use of the '784 photoinitiator. Thus, if one of skill in the art were to read the secondary references in conjunction with Korishima, the only initiator that one of skill in the art would be led to would be the '784 initiator. Based on the evidence that is in the Application and the comparative tests versus the present Invention, as reported in Table 7, it is clear that the present Invention provides surprising and unexpected improvement in sensitivity.

Turning to the tertiary references of Gottschalk or Adair, it is not seen that either of these references would direct one of skill in the art to the fact that the sensitivity would be greatly increased by using their photoinitiator versus the preferred photoinitiators taught in the secondary references of Dhar '551, Hegel or Dhar '104. As noted above, the three secondary references all teach that it is preferred to use the '784 initiator. Thus, it is submitted that a proper combination of Gottschalk and Adair, with the secondary references of Dhar '551, Hegel and Dhar '104, would lead one of skill in the art to still use initiator 784 and not some other initiator. Based on the fact that the tests in the Application demonstrate the large increase in sensitivity by using a photoinitiator of Formula (1), it is submitted that one of skill in the art would not be led by any of the cited references to use the photoinitiator of Formula (1) of the present Invention and expect anything but normal results. As shown by the data in the Application, normal results are not obtained but greatly improved results are obtained. Such results can be characterized as nothing less than surprising and unexpected. As such, Applicant submits that the claimed Invention is patentable over the cited references because their combination would not lead one of skill in the art to such an improvement. With respect to the additional

references of Korishima, this reference does not direct one of skill in the art to the specific photoinitiator cited in Claim 1 and, as such, Applicant submits that it is clear that the data presented in the Application evidences the patentability of the claimed Invention over the references.

#### Double Patenting Rejection

Claims 1-4, 8-10 and 12-20 had been provisionally rejected based on non-statutory obviousness-type double patenting based on the claims of copending Application 11/201,815 in view of Korishima. The '815 Application was filed after the instant Application and has not, as yet, issued as a Patent. Thus, it is respectfully submitted that the Double Patenting rejection be held in abeyance until such time as there is an indication of allowable subject matter.

#### Conclusion

In view of the foregoing, it is respectfully submitted that the Application is in condition for allowance and such action is respectfully requested.

Should any fees or extensions of time be necessary in order to maintain this Application in pending condition, appropriate requests are hereby made and authorization is given to debit Account # 02-2275.

Respectfully submitted,

LUCAS & MERCANTI, LLP

By: Donald C Lucas  
Donald C. Lucas, 31,275  
Attorney for Applicant(s)  
475 Park Avenue South, 15<sup>th</sup> Floor  
New York, NY 10016  
Tel. # 212-661-8000

DCL/mr